

REMARKS

Claim 1 has been amended to correct a typographical error and to recite that if the at least one fuel comprises magnesium, the at least one fluoropolymer does not comprise polytetrafluoroethylene and vinylidene fluoride-hexafluoropropylene. The as-filed specification (at least paragraph [0004]) discloses that a reactive material including magnesium, Teflon[®], and Viton[®] is known in the art. As such, this reactive material has been excluded from the scope of claim 1. Claim 16 and withdrawn claims 14, 17, 18, 24, 39, 41-43, and 49 have been amended to recite the transitional phrase "consists essentially of." No new matter has been added.

The amendments to withdrawn claims 14, 17, 18, 24, 39, 41-43, and 49 are indicated using the status identifier "Withdrawn-currently amended." While 37 C.F.R. 1.121 and M.P.E.P. § 714 list "Original," "Currently amended," "Canceled," "Withdrawn," "Previously presented," "New," and "Not entered" as the status identifiers to be used, subsection C(E) of M.P.E.P. § 714 lists "Withdrawn-currently amended" as an acceptable alternative for "Withdrawn." As such, Applicants' use of the former status identifier to indicate amendments to the withdrawn claims complies with the current rules of the United States Patent and Trademark Office.

The Final Office Action mailed December 8, 2006, has been received and reviewed. Claims 1-3, 5-8, 10-28, 30-33, and 35-51 are currently pending in the application. Claims 5-8, 10-15, 17-24, 27, 28, 30-33, and 35-39 are withdrawn from consideration. Claims 1-3, 16, 25, 26, 50, and 51 stand rejected. Applicants propose to amend claims 1, 14, 16-18, 24, 39, 41-43, and 49, cancel claims 2-3, and respectfully request reconsideration of the application as proposed to be amended herein.

The proposed amendments should be entered by the Examiner because they place the application in condition for allowance. Alternatively, the amendments place the application in better form for appeal.

Election/Restrictions

The Examiner indicates that claims 5-8, 10-15, 17-24, 27, 28, 30-33, and 35-49 are withdrawn from consideration. The Examiner indicates that "claims which require further

components have been withdrawn as nonelected . . . because they were not included in the original election, i.e., the components of claim 16 and also because the claim scope now excludes them.” Office Action of December 8, 2006, p. 2. While the Examiner has not identified the claims that allegedly fall into this category, claim 11 was previously under consideration but is now indicated as withdrawn. Applicants respectfully submit that the scope of claim 1 does not exclude the subject matter of claim 11. Since claim 1 recites that the reactive material consists essentially of the recited ingredients, the scope of the claim includes the “specified materials . . . and those that do not materially affect the basic and novel characteristic(s) of the claimed invention.” M.P.E.P. § 2111.03. As such, Applicants respectfully submit that claim 11 should still be under consideration.

Finality of the Office Action

Applicants respectfully submit that the finality of the outstanding Office Action is improper and should be withdrawn because the claims are rejected under newly cited art. In the Final Office Action, the Examiner relies on U.S. Patent No. 6,427,599 to Posson *et al.* (“Posson ‘599”) and U.S. Patent No. 6,635,130 to Koch (“Koch”) to reject the pending claims. These references were only made of record in the PTO-892 mailed with the Final Office Action and, therefore, the instant response is Applicants’ first and only opportunity to respond to the obviousness rejections based on these references. Since a final rejection is only proper after a second or subsequent action on the merits, the finality of the instant Office Action is improper and should be withdrawn. See M.P.E.P. § 706.07(a).

The Examiner also states that Applicants’ amendments necessitated the new grounds of rejection. However, in the amendment filed on September 29, 2006, claim 1 was amended to recite subject matter previously recited in claims 4 and 9, to recite the transitional phrase “consisting essentially of,” and to recite amounts of the at least one fuel and the at least one fluoropolymer. Support for the latter subject matter is found in the as-filed specification at at least paragraphs [0022] and [0025]. As required by M.P.E.P. § 904, the Examiner’s initial search should have covered “the invention as described and claimed.” Since the Examiner’s initial search should have included the subject matter of the previous amendments, Applicants

respectfully submit that the previous amendments did not necessitate the new grounds of rejection. Therefore, the finality of the instant Office Action is improper and should be withdrawn.

Supplemental Information Disclosure Statement

Please note that a Supplemental Information Disclosure Statement was filed herein on September 21, 2006, and that no copy of the PTO/SB/08A was returned with the outstanding Office Action. Applicants respectfully request that the information cited on the PTO/SB/08A be made of record herein. It is respectfully requested that an initialed copy of the PTO/SB/08A evidencing consideration of the cited references be returned to the undersigned attorney.

35 U.S.C. § 102(e) Anticipation Rejections

Anticipation Rejection Based on U.S. Patent No. 6,896,751 to Posson *et al.*

Claims 1, 2, and 3 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,896,751 to Posson *et al.* ("Posson '751"). Applicants have canceled claims 2 and 3, rendering moot the rejection as to these claims. Applicants respectfully traverse the rejection as to claim 1, as hereinafter set forth.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989).

Posson '751 discloses a propellant composition that includes a fuel, an oxidizer, and a latex binder. Posson '751 at the Abstract, column 1, lines 7-9, column 2, lines 27-30, column 3, lines 34-37, and Table 1. The fuel is a metallic powder, such as silicon, boron, aluminum, magnesium, or titanium. *Id.* at column 4, lines 59-66. The oxidizer is an alkali metal nitrate, bromate, chlorate, or perchlorate, a solid nitramine, or an inorganic halogen-containing compound. *Id.* at column 5, lines 31-58. The latex binder is a fluoropolymer, such as a terpolymer of hexafluoropropylene, vinylidene fluoride, and tetrafluoroethylene. *Id.* at column 4,

lines 2-11. Plasticizers, curing agents, catalysts, burn rate modifiers, antioxidants, dispersants, lubricants, anti-static agents, or mold release agents may be present in the propellant composition. *Id.* at column 2, lines 31-35, column 3, lines 38-41, and column 6, lines 28-38.

Posson '751 does not expressly or inherently describe each and every element of claim 1, as proposed to be amended, because the propellant compositions of Posson '751 do not consist essentially of the ingredients recited in claim 1. Rather, the propellant compositions of Posson '751 include a fuel, an oxidizer, and a latex binder.

The Examiner states that "all other components [besides a primary fuel and the terpolymer of hexafluoropropylene, vinylidene fluoride, and tetrafluoroethylene] are optional since Posson indicates that they 'may' be included" and "Posson indicates that all of the other ingredients are option[al] by the use of the word 'may.'" Office Action of December 8, 2006, p. 2, 3, and 5. However, Applicants respectfully submit that Posson '751 discloses that the oxidizer is present in its propellant compositions. See, for example, Posson '751 at the Abstract, column 1, lines 7-9, column 2, lines 27-30, column 3, lines 34-37, and Table 1. Contrary to the Examiner's assertion, the oxidizer is not an optional ingredient. While other ingredients (plasticizers, curing agents, catalysts, burn rate modifiers, antioxidants, dispersants, lubricants, anti-static agents, or mold release agents) are optional, the oxidizer is not one of these optional ingredients.

Since Posson '751 does not expressly or inherently describe each and every element of claim 1, the anticipation rejection is improper and should be withdrawn.

Anticipation Rejection Based on Posson '599

Claims 1, 2, 3, 25, 26, and 51 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Posson '599. Applicants have canceled claims 2 and 3, rendering moot the rejection as to these claims. Applicants respectfully traverse the rejection as to the remaining claims, as hereinafter set forth.

Posson '599 discloses a composition that includes a mixture of magnesium, Teflon®, and Viton®. Posson '599 at column 28, line 66 through column 29, line 2.

Posson '599 does not expressly or inherently describe each and every element of claim 1

because claim 1, as proposed to be amended, excludes the composition disclosed in Posson '599. Specifically, claim 1 excludes a composition that includes magnesium, polytetrafluoroethylene, and vinylidene fluoride-hexafluoropropylene.

Since Posson '599 does not expressly or inherently describe each and every element of claim 1, the anticipation rejection is improper and should be withdrawn.

Claims 25, 26, and 51 are allowable, *inter alia*, as depending on an allowable base claim.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on Posson '751 and further in view of Koch

Claim 16 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Posson '751, as applied to claims 1, 2, 3, and 11 above, and further in view of Koch. Applicants respectfully traverse this rejection, as hereinafter set forth.

Dependent claim 16 is allowable, *inter alia*, as depending from an allowable base claim.

M.P.E.P. 706.02(j) sets forth the standard for an obviousness rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The obviousness rejection of dependent claim 16 is also improper because the cited references do not teach or suggest all of the claim limitations and do not provide a motivation to combine to produce the claimed invention.

Koch teaches a pyrotechnic composition that includes halophilic metallic fuel, a poly-(carbon monofluoride), an organic fluorine-bearing agent, and graphite. Koch at column 2, lines 44-52. The halophilic metallic fuel is magnesium, aluminum, titanium, zirconium, hafnium, calcium, beryllium, or boron. *Id.* at column 2, lines 44-52.

Since claim 16 depends from claim 1, claim 16 includes all of the limitations of claim 1. Posson '751 does not teach or suggest that its propellant composition consists essentially of the ingredients recited in claim 1, for substantially the same reasons previously discussed in the anticipation rejection. Therefore, Posson '751 does not teach or suggest all of the limitations of claim 1. Koch does not cure these deficiencies in Posson '751 because the pyrotechnic composition in Koch includes the halophilic metallic fuel, poly-(carbon monofluoride), organic fluorine-bearing agent, and graphite. As such, Koch does not teach or suggest that its pyrotechnic composition consists essentially of the ingredients recited in claim 1.

The cited references also do not provide a motivation to combine to produce the claimed invention. To provide a motivation or suggestion to combine, the prior art or the knowledge of a person of ordinary skill in the art must "suggest the desirability of the combination" or provide "an objective reason to combine the teachings of the references." M.P.E.P. § 2143.01. Nothing in Posson '751, alone or in combination with Koch, suggests the desirability of, or provides an objective reason for, a reactive material that consists essentially of the ingredients recited in claim 1. Rather, as previously discussed, the propellant compositions of Posson '751 include a fuel, an oxidizer, and a latex binder. Similarly, nothing in Koch, alone or in combination with Posson '751, suggests the desirability of, or provides an objective reason for, a reactive material that consists essentially of the ingredients recited in claim 1. Rather, the pyrotechnic composition of Koch includes halophilic metallic fuel, poly-(carbon monofluoride), organic fluorine-bearing agent, and graphite.

In addition, there is no motivation to combine the cited references to produce the claimed invention. The Examiner states that "[i]t would have been obvious to one having ordinary skill in the art at the time the invention was made to use hafnium as taught by Koch since Koch indicates that it is a known fuel to use with fluorocarbons and also since Koch indicates its equivalence as a fuel with other metal fuels." Office Action of December 8, 2006, p. 3-4. However, even if the Examiner's motivation for using hafnium as the fuel in Posson '751 is correct (which Applicants do not concede), the claimed invention would not be produced because the resulting composition would not consist essentially of the ingredients recited in claim 1.

Obviousness Rejection Based on Posson '751 in view of Koch and further in view of Posson

'599

Claim 50 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Posson '751 in view of Koch as applied to claims 1, 2, 3, 11, and 16 above, and further in view of Posson '599. Applicants respectfully traverse this rejection, as hereinafter set forth.

Dependent claim 50 is allowable, *inter alia*, as depending from an allowable base claim.

ENTRY OF AMENDMENTS

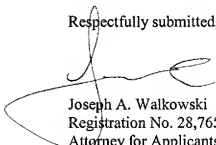
The proposed amendments to claims 1, 14, 16-18, 24, 39, 41-43, and 49 should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add new matter to the application. Further, the amendments do not raise new issues or require a further search. Finally, if the Examiner determines that the amendments do not place the application in condition for allowance, entry is respectfully requested upon filing a Notice of Appeal herein.

Applicants consider claim 1 to be generic and note that upon allowance of claim 1, claims 14, 17, 18, 24, 39, 41-43, and 49 directed to a nonelected species would also be allowable.

CONCLUSION

Claims 1, 11, 14, 16-18, 24-26, 36, 39, 41-43, and 49-51 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, she is respectfully invited to contact Applicants' undersigned attorney.

Respectfully submitted,



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